

STAFF REPORT

AEROJET-GENERAL CORPORATION
PROPOSED MODIFICATIONS TO THE PARTIAL
CONSENT DECREE
SACRAMENTO COUNTY



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Executive Summary

The proposed changes to the Partial Consent Decree (PCD) provide a significant benefit to the public and the Agencies (USEPA, the Board, the Department of Toxic Substances Control) in accelerating the investigation and cleanup of the Aerojet site, providing greater authority for approval of the investigation and cleanup, providing additional financial assurance to ensure that funds are available to complete necessary cleanup actions, and assuring the availability of replacement water supplies for threatened public supply wells. The proposed changes remove non-contaminated land, approximately 3,000 acres, from regulation under the PCD, subject to deed restrictions and other restrictive covenants ("Carve-out Lands") and the USEPA will remove those lands from its definition of the Aerojet Superfund Site. The proposed modifications do not change Aerojet's obligations to address contaminated groundwater under the Carve-out Lands. At its 8 November 2001 public meeting, the Board will be receiving comments on the proposed modifications to determine whether or not to continue to support the modifications.

As of 2 November 2001, the Board received 178 comment letters regarding the PCD modifications. Several advertisements and articles have been published in the local newspapers. Of those letters, 99 came from citizens requesting that Aerojet not be allowed to develop its property prior to an adequate replacement water supply being provided. There were 56 letters from citizens in support of the PCD modifications. Several U.S. Congressman and State Legislators provided comments in support of the PCD modifications. Twelve businesses or local Chambers of Commerce submitted letters in support of the modifications. Three water purveyors in the vicinity of Aerojet, Arden-Cordova Water Service (ACWS), Citizen Utilities, and Sacramento County also provided comments requesting, among other things, delaying the modifications, and what they perceived to be the inadequacy of the current water supply replacement measures taken by Aerojet.

Background

The Aerojet-General Corporation (Aerojet) owns and operates a rocket testing and chemical manufacturing facility in eastern Sacramento County near Rancho Cordova and Folsom. Past discharge practices have caused the release of waste (contaminants) into the subsurface soils and groundwater at the facility, with migration of the contaminants in groundwater off-site. In the late 1970's, the Central Valley Regional Water Quality Control Board (Board) issued several Cleanup and Abatement Orders to Aerojet for violations of waste discharge requirements. In 1979 the Board also referred the matter to the Attorney General's office for enforcement and a lawsuit was filed in 1980. While settlement negotiations were taking place in 1983, the United States Environmental Protection Agency (USEPA) placed the Aerojet site on the National Priorities List (Superfund). Thus, USEPA entered the settlement negotiations. These negotiations continued until the entry of a Partial Consent Decree (PCD) in December 1989. The PCD was entered by the federal court after a public comment period.

The PCD defines Aerojet's obligations to investigate the extent of contamination at the Aerojet site and evaluate methods to cleanup the contamination. The PCD also binds the Agencies and Aerojet to a

process for doing this work. The PCD does not resolve Aerojet's liability for or obligation to cleanup its Site and any affected offsite areas. There are five main requirements under the original PCD: (1) Aerojet is to complete a Remedial Investigation/Feasibility Study for the entire site, (2) Aerojet must operate the existing groundwater extraction and treatment systems (GETs), each according to a Facility Plan, to contain contaminants at the property boundaries and Aerojet must meet effluent limitations for specified contaminants prior to discharge, (3) Aerojet must monitor a specified group of threatened water supply wells, on a designated frequency, for chemicals listed in the PCD, (4) Aerojet must provide Preliminary and Final Water Supply Alternatives Reports when specified concentrations of chemicals are exceeded in a listed well, and (5) Aerojet must monitor the American River and the City of Sacramento water supply intake at the Fairbain plant for specified chemicals. In 1998, following the discovery of perchlorate and n-nitrosodimethylamine (NDMA) on the west side of Aerojet, the PCD was modified to add perchlorate and NDMA to the list of chemicals sampled in the water supply wells, reduce the effluent limit for NDMA at the GET facilities, require the submittal of an annual monitoring plan for the water supply wells (for Agency review and approval), and require quarterly reports on efforts to lower the analytical reporting level for NDMA to 0.002 µg/l, or less.

In addition to the amendments that were made to the PCD in 1998, there were several additional improvements the Agencies wanted to make in the PCD. The primary improvement the Agencies wanted to make was to divide the Aerojet site for purposes of investigation and cleanup into smaller sections, or operable units, with a compliance schedule for investigation of each operable unit. By doing so, remediation of operable units that posed the greatest risk to human health and the environment could be accomplished sooner without having to wait for the completion of the remedial investigation/feasibility study (RI/FS) for the entire site (which may be years off). The Agencies also wanted to enhance the requirements for alternative water supply in the PCD. Aerojet desired to revise the site definition in the PCD to eliminate some uncontaminated land from its jurisdiction. The modifications desired by the Agencies and Aerojet were brought before the federal District Court as a stipulated modification to the existing PCD.

For several years, the Agencies and Aerojet have been working towards agreement on PCD modifications to accomplish these goals. In order to determine what portion of the Aerojet site could be eliminated from the PCD, Aerojet conducted a site assessment of the property Aerojet desired to have removed. That assessment included review of the previous remedial investigation work already conducted by Aerojet, a review of historical aerial photographs, a site walk with the Agencies to review the area and proposed sampling locations, developing a sampling and analysis plan (SAP), and conducting the approved SAP. The Site Assessment Report was reviewed and some property was subsequently excluded from that proposed by Aerojet. The area that is recommended for removal from the site definition contains no detected contamination in the upper soil column, with only contamination associated with groundwater under the area. The site assessment document contains a health risk assessment to further support the determination that the property proposed for removal from the PCD is appropriate.

Seven public water supply wells, six operated by ACWS and one by Sacramento County, have been shut down as a result of the groundwater contamination from the Aerojet site. See Attachment A for a list of ACWS wells and Attachment B for the Sacramento County well list. The existing PCD obligates Aerojet to submit proposals to the Agencies for approval, for taking actions to provide interim and/or final water supply replacement once certain concentrations have been exceeded. Interim and/or final

replacement supplies have been provided by Aerojet to replace the majority of the currently lost water supplies as indicated on Attachment A. Two new water supply wells (ACWS Well Nos. 22 and 23) were constructed in the last couple of years. Those two wells have a capacity of 4600 gpm. Aerojet has paid for all of ACWS Well No. 22, improvements to the ACWS surface water treatment plant, a 2-million gallon storage tank, and the construction of additional distribution lines.

Additional public water supply wells, specifically ACWS Well Nos. 1, 10 and 20, are threatened to be shut down in the near future as a result of the contaminants emanating from the western part of the Aerojet site. The current PCD process does not lend itself to quick replacement of lost water supplies. The PCD Modifications obligate Aerojet to immediately (within 24-hours) provide interim alternate water to affected water purveyors once certain concentrations have been exceeded. This requires that facilities and any necessary permits/agreements to be in-place prior to the well being shutdown.

In 1999, American States Water Company, parent company to ACWS, filed suit against the State of California for damages to its water supply allegedly arising out of contamination from the Aerojet Site. It also filed a separate suit against Aerojet.

Proposed Modifications to the PCD

To make the improvements to the PCD sought by the Agencies, and to allow a portion of the property recommended by the Site Assessment Report to be removed from the site definition and therefore no longer subject to the PCD, the following modifications are being proposed:

- *Dividing Site into Operable Units.* Exhibit II of the PCD will be completely revised. Exhibit II is the Program Plan that directs the schedule and review for RI/FS work. As stated previously, Exhibit II of the original PCD required one RI/FS for the entire site to be completed before remediation would follow. The new Exhibit II divides the Aerojet site into more manageable, smaller portions or “operable units” and provides a schedule for completion of each of the operable units. Once the RI/FS for an operable unit is complete, the PCD will no longer apply to that operable unit following issuance of an enforcement order by the Agencies. By dividing the site up into smaller sections, cleanup can begin more quickly in the areas where the greatest risk is found. The RI/FS work for the first operable unit, the Western Groundwater Operable Unit, was completed prior to the proposed revisions to the PCD, and a consent decree is currently being drafted for the cleanup of the groundwater in this area. The PCD modifications also identify the Perimeter Groundwater Operable Unit and the Cavitt Ranch Operable Unit with a time schedule for investigation and development of a remedy.
- *Removal of Uncontaminated Property.* The site boundaries will be modified to remove agreed-upon lands from the definition of the site under the PCD except for the underlying contaminated groundwater (See Attachment C). USEPA has provided a letter to Aerojet clarifying that USEPA will no longer consider the Carve-out Lands to be part of the site effective upon entry of the modification, though the groundwater and associated contaminated media remain part of the site (Attachment D).
- *Financial Guarantee.* Additional financial assurance has been agreed upon by Aerojet’s parent company, GenCorp. The financial guarantee would be used in the event that Aerojet could not

meet its obligations, as defined by the Agencies, to fund the necessary investigation and cleanup work. The financial assurance by GenCorp consists of \$10 million per year, with a total cap of \$75 million, adjusted annually for inflation. As Aerojet has an agreement with the Department of Defense for cost-reimbursement for up to 88% of eligible costs incurred by Aerojet for investigation and cleanup, Aerojet is responsible for 12% of those costs. The financial guarantee for Aerojet's share translates therefore into an amount of \$625 million for eligible costs (not adjusted for inflation) available for implementation of the entire site cleanup.

- Annual Work Plan Requirement. Aerojet will be required to propose an annual work plan to the Agencies for review and approval. The proposal includes information regarding the funding available to perform the proposed projects. If the Agencies and Aerojet cannot agree on the scope and amount of the work and Aerojet was unable to meet its obligations, the financial guarantee may be triggered as described above.
- Indemnification. Aerojet will provide significant indemnification to the Agencies from potential future lawsuits regarding the property that will be removed from the PCD.
- Restrictions on Carve-out Lands. Covenants and deed restrictions have been developed to cover the property that will be removed from the site definition in the PCD. There will be deed restrictions over the entire Carve-out Lands that deal specifically with the groundwater contamination. Those restrictions include prohibitions on constructing groundwater extraction or recharge wells, prohibition on constructing basins that recharge the groundwater unless allowed by the Regional Board and Aerojet, prohibition on sustained dewatering for construction of a building unless approved by the Regional Board and Aerojet, and providing mechanisms that allow Aerojet and the Agencies to access monitoring and remedial systems on the property. A small portion of the Carve-out Lands will have additional restrictions on the use of the property, allowing only commercial/industrial uses and excluding residential use, day-care facilities, hospitals, schools, and senior-care facilities. Those additional restrictions are based on the potential that in the future contaminants in groundwater could enter into the soil column and migrate to the ground surface at concentrations that would pose an unacceptable health risk. During the assessment, no contaminants in the shallow soil were measured in concentrations that would currently pose an unacceptable health risk for any type of property use. To provide additional assurance that unacceptable exposure to contaminants in the groundwater will not occur, Aerojet is required to monitor concentrations of groundwater up-gradient of the Carve-out Lands and take appropriate remedial actions to prevent groundwater with unacceptable concentrations of contaminants from migrating beneath these lands.
- Contaminated Groundwater Remains with Aerojet. The contamination associated with the groundwater under the Carve-out Lands will remain subject to the requirements of the PCD, which primarily addresses the investigation of the site, and Aerojet remains responsible for its remediation.
- Interim Water Supply Replacement. An Alternate Water Supply Contingency Plan (Contingency Plan) developed by Aerojet, and reviewed by the Agencies, will be enforceable under the modified PCD. The Contingency Plan was requested by the Board in order to provide an

immediately available interim water supply, to replace future losses of water supply wells, in the event additional water supply wells are shutdown in the Western Groundwater Operable Unit area. The interim replacement water would be used until Aerojet provides permanent replacement water supplies. The modifications to the PCD have specific contaminant concentrations at which Aerojet would be required to supply interim replacement water. The Contingency Plan will be reviewed, and revised as needed, on an annual basis, whenever interim replacement supplies are used, and upon request of the Agencies. The Contingency Plan would be enforceable through the PCD modifications until the Record of Decision for the Western Groundwater Operable Unit is enforceable through a consent decree or order. Implementation of that Record of Decision includes development of the short-term and long-term replacement of lost water supplies. Once the PCD modifications are completed, the Contingency Plan would require provision of replacement water for that currently provided by Arden-Cordova Well No. 1, and an evaluation of the adequacy of the remaining interim supplies provided by the Contingency Plan.

Water Supply Contingency Plan

As described above, the modifications to the PCD (and the ROD for the Western Groundwater Operable Unit) require Aerojet to develop, and modify as necessary, a Contingency Plan. The Contingency Plan is to provide an immediate interim supply of water for a water supply well shutdown due to contamination from Aerojet, until a final replacement water supply is in place. This Contingency Plan does not address any water supply needs from potential development of Aerojet property. The current version of the Contingency Plan consists of two components. The first component is a 3-year Aerojet contract (starting in June 2000) with the City of Folsom (Folsom) for up to 3000 gpm of water. It has been acknowledged that the current infrastructure does not allow for such a flow to be sustained. An achievable sustained rate is on the order of 800 to 1200 gpm. Under this contract, potable water is released by Folsom on request by ACWS, with notification provided to Aerojet, and provided by Folsom when available. The second component is a new water supply well that will be paid for by Aerojet and given to ACWS. The well has been planned and designed to be installed in Sacramento County's Rossmoor Bar Park. Board staff understands that the only item delaying installation of the well is an agreement between the landowner (Sacramento County) and ACWS (the owner of the future well). Negotiations on the agreement started near the beginning of 2001.

Agency staff agreed that Aerojet can develop these two existing components of the Contingency Plan in an effort to fulfill the requirement to provide immediate interim replacement water for the wells with highest potential to become contaminated. Aerojet is undertaking efforts to assure that these two sources are available and to determine the capacity they will provide.

Agency staff have requested Aerojet to evaluate additional sources of immediately available interim water supply (See Attachment E). These potential additional sources were brought forth at meetings of the water local water purveyors and the Department of Health Services hosted by Board staff. Some of the additional sources of temporary water Aerojet has been requested to evaluate are:

- Aerojet's contract with the City of Folsom under which the city would supply Aerojet up to 2 million gallons per day (mgd) of potable water and 5 mgd of raw water for industrial purposes. Aerojet currently uses only a portion of that water and the contract extends through the year

2036. Reuse of existing treated groundwater on Aerojet for industrial purposes could be a part of utilization of this source of water.

- Treated groundwater from Aerojet's American River Study Area treatment facility which treats groundwater from two different sources. One of the pipelines transmits approximately 1500 gpm of water containing 10 µg/l of trichloroethylene (TCE). The second pipeline transmits groundwater with much higher concentrations of TCE and some very low concentrations of perchlorate. The treatment facility removes all of the TCE to below detectable concentrations. Water from the first pipeline could be isolated prior to blending and processed with additional treatment facilities to be suitable for drinking. A permit from the Department of Health Services would be needed to use this source of water. Water with similar low concentrations of TCE in drinking water wells has been permitted by DHS in the past, including some water supply wells in the ACWS system.
- A new water supply well to the west of Mather Field. Placement of a well in this area would have to deal with low concentrations of volatile organic contaminants from the former Mather Air Force Base, require an evaluation by DHS, and be evaluated with respect to its potential effect on the remediation efforts at Mather Field. Other well locations in the Citizen Utilities area could also be considered.
- Contracting with the City of Sacramento to provide water to the portions of the Citizen Utilities service area that are within the area allowed to be served by the city. The Citizen Utilities wells that served that area could then be used to supply water to the eastern portion of the Citizen Utilities Service Area. Excess water could be supplied where needed. Infrastructure improvements would be needed in order to move the water from the west side of the Citizen Utilities area to the east side.
- New water supply wells in the vicinity of Eagles Nest on the south part of Mather Field. The area is already being evaluated for replacement supplies for the County of Sacramento and excess available water from the area could potentially be moved to the north for temporary use.
- Potential use of a contract being negotiated by ACWS with SMUD for water that was used to cool Rancho Seco. The water would be processed through the ACWS surface water treatment plant. The status of the negotiations with SMUD and the available capacity of the ACWS plant are not known at this time.
- Excess water from the Carmichael Water District. A pipeline from Carmichael currently extends underneath the American River in the vicinity of Rossmoor Bar Park. The availability of this source of water is not certain.

Comments Received

The regular monthly meeting of the Community Advisory Group (CAG) for the Aerojet Superfund Site was held on 23 October 2001. The CAG was formed in 2001 and is an EPA-sponsored group of concerned citizens from the area near Aerojet that receives information and provides community input

and concerns into the cleanup process for Aerojet. The main topic of the meeting was the proposed modifications to the PCD. With notices of the meeting issued by USEPA and ACWS, the primary supplier of water immediately downgradient from Aerojet, approximately 70 people (a regular CAG meeting usually has 10-18 attendees) showed up to hear the discussion and provide input. A majority of the public in attendance expressed concerns regarding the adequacy of Aerojet's replacement of water supplies that have been lost due to contamination or are threatened to be lost due to contamination by Aerojet, potential significant rate increases to replace those lost water supplies and the potential ramifications of development of land that has been removed from coverage under the PCD.

As stated above, the Board received 178 comment letters from citizens, water utilities, businesses, local politicians, and Aerojet as of 1 November 2001 (See Attachment F). A synopsis of the comments and associated responses are provided below. In addition, several newspaper articles and advertisements were recently printed in the local papers (See Attachment G).

Responses to Comments

Water Supply Issues

The public comments in many letters and presented at the CAG meeting appear to reflect the information that was supplied by a 18 October 2001 letter sent by ACWS to its customers (Attachment G). This ACWS letter stated that water rates could more than double to replace lost water supplies, represented the PCD modifications as a "development deal", stated that nine wells have been shutdown due to Aerojet's contamination and that more would be lost, and urged the public to oppose the modifications and prevent Aerojet from developing the land until an adequate replacement water supply for the community is provided. We believe the letter did not contain, and it did not accurately state, significant facts and information, as explained below.

As stated above, the ACWS letter discussed the loss of nine of its water supply wells and stated that more will be lost. The letter does not present information on how much of the lost water supply has been replaced. From information supplied by ACWS and Aerojet to Board staff, only six wells in the ACWS service area have currently exceeded concentrations that exceed the Department of Health Service's established Action Levels (see Attachment C). Those six wells have a total production capacity of 4100 gallons per minute (gpm). Two new water supply wells (ACWS Well Nos. 22 and 23) were constructed in the last couple of years. Those two wells have a capacity of 4600 gpm. Aerojet has paid for all of ACWS Well No. 22, in addition to improvements to the ACWS surface water treatment plant, installation of a 2-million gallon storage tank, and the construction of additional distribution lines. Aerojet initiated negotiations to seek agreement with ACWS regarding payment for a portion of ACWS Well No. 23, constructed by ACWS. However, the negotiations were halted when ACWS filed suit against Aerojet in October 1999 regarding the water supply issues. Therefore, there has been physical replacement of the wells lost to confirmed contamination from Aerojet. Board staff understands that Aerojet and ACWS still need to come to agreement on what additional costs Aerojet should pay towards the construction of ACWS Well No 23.

Development Issues

The PCD modifications do not authorize development, but rather exclude certain lands from the scope of the PCD. In addition, EPA has stated that it no longer considers the Carve-out Lands to be part of the Superfund Site, effective upon entry of the PCD modifications. The underlying groundwater, and its associated contamination, remains the responsibility of Aerojet. Aerojet has always been free to sell or develop the Carve-out lands subject to the development laws discussed below. The existing PCD provides that the Agencies may only prevent the sale of these lands if the Agencies can establish that the sale would interfere with the performance of Aerojet's obligations under the PCD. The proposed deed restrictions on the Carve-out Lands assure that any sale will not interfere with Aerojet's obligations.

In order for development to occur on the Aerojet property or Carve-out Lands, Aerojet or any other developer will need to proceed through the regular local planning and permitting process. That process includes completion of the necessary California Environmental Quality Act (CEQA) documents, obtaining any necessary zoning changes, and would have to demonstrate that the necessary utilities and infrastructure, including an adequate water supply is available for the development. The development approval process takes place through Sacramento County. If sufficient, acceptable water supplies were not available, Sacramento County would need to determine whether or not the development can proceed. Regardless of the development status of this property or its water supply needs, the PCD modifications would still obligate Aerojet to provide immediate replacement of lost water supplies until a long-term replacement is provided.

Three water purveyors – Sacramento County, Citizen Utilities, and Arden-Cordova Water Service – supplied a number of comments regarding various issues at Aerojet. Many of the comments do not deal with the proposed modifications to the PCD. Those ancillary comments will not be addressed in this forum. In addition, general responses to the water purveyor comments regarding replacement of past and lost water supplies are supplied above in our response to the public concerns.

Additional Comments from Sacramento County

- Sacramento County asked whether or not a NEPA and/or CEQA document was needed for Aerojet site. Sacramento County has asked whether the Aerojet remediation has been evaluated under the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA). In particular, Sacramento County expressed concern over potential impacts that extraction associated with remediation will have on local water purveyors and residents. The PCD modifications do not address extraction of groundwater or remediation in any form. Thus, the comment does not apply to the PCD modifications. It should also be understood that compliance with Superfund in this context constitutes compliance with NEPA.
- Sacramento County questioned the designation of “not contaminated” for the lands being proposed for removal from the PCD. Specifically, they mentioned property adjacent to Beck’s Furniture and Schnitzer Steel. Property with contaminated soil was excluded within the Carve-out Lands and therefore, remains in the PCD and part of the site. The area around Schnitzer Steel is in the process of being purchased by that company, as the metal contamination is

potentially associated with the operation of that facility. In addition, the area was removed from potential release along with a buffer area that includes up to a roadway that blocks migration of the metal contamination. With the covenants and deed restrictions being required, the property has been determined to be safe for the designated uses, either unrestricted or commercial/industrial.

- The County expressed concerns regarding the adequacy of potable water supplies, in a similar manner to those expressed by a majority of the public, and specifically requested that Aerojet not be allowed to sell any property until they come up with a source of water for the property. If a developer wants to purchase the property without an adequate water supply already being available, then that is their prerogative. Superfund does not generally prohibit the sale of private property.
- The County stated that it is not clear how the human health risk and ecological risk assessments will be used to protect human health and the environment. The risk assessments are used to provide information that will be used to establish cleanup levels in the various operable units. Cumulative risk assessments will be used at completion of the last operable unit to assure that the combined remedies will provide appropriate protection of human health and the environment. This process is a standard procedure at cleanup sites around the country.
- Sacramento County opposed the proposed cap on the financial obligation by GenCorp. Although substantial, the financial assurance required of GenCorp, Aerojet's parent corporation, is not the only financial assurance that is or will be required for cleanup of the entire site. Instead, the need for additional financial assurance will be evaluated and required for implementation of the remedy of each operable unit. The existing PCD requires a \$20 million financial assurance provision in addition to the \$75 million that will be required under the PCD modification.

Additional Comments from ACWS

- ACWS asks what has caused Board staff to change its position on the issue of groundwater extraction and recharge in the carve-out area potentially affecting the remedial actions designed to clean up the groundwater contamination. The proposed PCD modifications contain protective covenants and deed restrictions that will be placed on the Carve-out Lands that were not assigned previously when the Board objected to allowing Carve-out Lands to be removed from the PCD. A portion of those covenants and restrictions provide adequate control of withdrawals and discharges to the groundwater in the carve-out lands to assure that adverse impacts to remediation of the groundwater do not occur due to those activities.
- ACWS is concerned over what portion of the flow from Rossmoor Bar Park well will be supplied to ACWS. The County of Sacramento, owner of the property on which the proposed Rossmoor Bar Park well will be located, has indicated they would like to receive 1500 gpm from ACWS in return for allowing the well to be on their property. They have also indicated that they are willing to negotiate the terms of the agreement and that the flow guarantee may be flexible. ACWS will be provided with whatever flow that the well produces, less what is placed in the

agreement between ACWS and Sacramento County. The amount that is available to ACWS from Rossmoor Bar Park well will be considered in the re-evaluation of the Contingency Plan to determine if there is sufficient available interim replacement water. ACWS and the County of Sacramento must come to an agreement in order for the well to be built and the available flow to be allocated.

- ACWS claims that even if they get 3000 gpm from Rossmoor Bar Park and 475 gpm from the City of Folsom, it would not compensate for the loss of Well Nos. 1, 10, and 20. As shown in attachment A, the three wells total capacity (as taken from ACWS documents) is up to 3400 gpm. Consequently, 3475 gpm from Rossmoor Bar Park and the City of Folsom should be sufficient to temporarily replace the potential loss of those three wells. In addition, as stated above, the Contingency Plan continues to be evaluated to determine if additional flows are needed, and additional sources of water will be investigated to meet any such need.
- ACWS asks where the occupants of the carve-out property will get their water. Appropriate parties will determine the sources of water as proposals for development are being initiated. If there is no water, then it is unlikely that local authorities would allow development to proceed. In addition, any proposed supply for development should be evaluated as part of the local permitting process prior to development being allowed on the carve-out property.
- ACWS states that water should not go to development before the citizens of Rancho Cordova receive an adequate supply. The requirements in the proposed PCD modifications and the Record of Decision require Aerojet to replace water supplies that it has caused to be lost. There is no provision in either of those documents that would provide water for development on Carve-out Lands.
- ACWS expressed concern regarding the statement “Aerojet shall retain all interest in said groundwater when it conveys title to the carve-out lands” as attempting to provide Aerojet with “water rights.” Aerojet is maintaining all water and hydrocarbon estates associated with the Carve-out Lands in order to help prevent unacceptable impacts on remediation of the groundwater.
- ACWS believes that Aerojet should not be allowed to disagree that Exhibit L is an accurate depiction of the alleged groundwater plumes. The generation of lines on a map to depict groundwater contamination is made with engineering judgement. The lines can never show exactly where the contamination is at any given time. The lines are an interpolation of data at discrete points and depicting the contamination concentrations between the points can have several equally likely outcomes. Although Agency staff believes that Exhibit L is an accurate depiction of the alleged groundwater plumes, we understand that Aerojet may not agree.
- ACWS states that the PCD modifications fail to address the potential drawdown in the carve-out area by wells that will be constructed to serve various needs of the carve-out area. The deed restrictions and covenants contained in the modifications do not allow any water supply wells to be constructed in the carve-out lands without approval of the Board and Aerojet. In addition,

any proposed supply for development should be evaluated as part of the local permitting process prior to development being allowed on the Carve-out Lands. .

- ACWS states that the PCD modifications fail to address the infrastructure requirements which will be necessary for remediation of the groundwater. On the contrary, the covenants and deed restrictions provide for access to construct, monitor, and repair wells, piping, and potential treatment systems in the Carve-out Lands.
- ACWS states that the Carve-out Report produced by ERM-West was to facilitate a decision that had already been made. The report was used to provide information, along with other information and investigations that had been performed over the last ten years, to determine which portion of the lands proposed by Aerojet for carve-out, if any, could be released from the Superfund site and the PCD.
- ACWS expressed concern that development of the buffer lands will prohibit Aerojet from continuing its operations as a rocket test facility. If Aerojet continues in the rocket-testing business, then it will have to maintain the necessary buffer zones. Removal of Carve-out Lands from the Aerojet Superfund site does not necessarily mean that all of the property will be developed. In addition, a majority of the rocket testing operations occur on the eastern side of the facility, while most of the Carve-out Lands are located in the west and north-central part of the site.
- ACWS states that the qualifiers ERM-West placed in the report give the report little environmental, scientific, or engineering credibility. The Agencies reviewed the data and information contained in the report, and believe that the report supports that the lands were suitable for carve-out.
- ACWS states that ERM-West should have been provided all of the documents Aerojet produced in order to choose those documents it believed were pertinent. A work plan for development of the remedial investigation and analysis for the Carve-out report was provided by ERM-West for review by the Agencies and Aerojet. The Agencies approved the work plan, which included the documents that were selected for review by ERM-West. Aerojet provided the selected documents for ERM-West use.
- ACWS questions why there was no sampling for NDMA in the Carve-out area. There are no known source areas of contaminants in the selected Carve-out Lands. Areas downgradient, or downslope, of known or potential source areas were sampled according to the chemicals used at those source areas. The selection of chemicals to be monitored was appropriate.
- ACWS believes that more than just one potential exposure pathway should have been considered in the risk assessment. The only potential exposure route of concern left within the remaining candidate Carve-out lands was the inhalation of VOCs potentially emanating from the vadose zone. All other chemicals/metals of concern within the Carve-out lands are found at, below, background concentrations for those constituents and/or Preliminary Remediation Goals, which constitute a defined de minimis, risk.

- ACWS states that someone is trying to create “the idea that the carve-out of this property would somehow facilitate the cleanup of the Western Groundwater Operable Unit.” Carve-out and cleanup of the Western Groundwater Operable Unit are completely separate. However, PCD modification, which allows for remediation on an operable unit basis, will facilitate cleanup of the Western Groundwater Operable Unit in a more timely fashion.

Additional Comments from Citizen Utilities (Citizen)

Citizen expressed concerns over whether or not Aerojet has sufficient resources for environmental obligations given all of their sites around the country that require cleanup. As state above, GenCorp has provided additional financial assurance for the Sacramento site. Also, as each operable unit is completed, Aerojet and/or GenCorp will be required to provide additional financial assurance as needed.

Citizen states that Aerojet did not perform regional modeling to determine effect of groundwater remediation on local water purveyors. In the RI/FS for the Western Groundwater Operable Unit, Aerojet used its model to evaluate the drawdown caused by the proposed extraction at the water supply wells closest to the extraction field.

Citizen states that the June 2000 contract between the City of Folsom and Aerojet is ineffective and unreliable. It provides for 60-day notice for termination, is tied to excess capacity, and has a capacity limit of 400-500 gpm. The limitations with he contract with the City of Folsom are taken into account when determining the adequacy of the Contingency Plan. As stated above, additional sources of temporary water supply are being evaluated.

Sacramento County Supply Well Status, 1 November, 2001

Sacramento County Well No. (Aerojet No.)	Capacity (gpm)	Status	Active Capacity (gpm)	Shutdown Capacity (gpm)	Voluntary Shutdown Capacity (gpm)	Comments	Contaminants (ppb)
17 (1030)	600	Shutdown		600		Well is off due to perchlorate contamination	TCE ND, Perchlorate 18, NDMA ND
18 (1097)	600	Shutdown		600		Well is off due to perchlorate contamination	TCE 27, Perchlorate 84, NDMA ND
MAFB 1 (1809)	1100	Shutdown		1100		Well is off due to perchlorate contamination	Perchlorate 130, NDMA ND
MAFB 2 (1810)	1200	Shutdown		1200		Well is off due to perchlorate contamination	Perchlorate 67, NDMA ND
MAFB 2 (1800)	1100	Shutdown		1100		Well is off due to perchlorate contamination	Perchlorate 39, NDMA ND
MAFB 4 (1801)	1200	Voluntary Shutdown			1200	In very close proximity to perchlorate plume. Set for fireflows.	Perchlorate ND, NDMA ND
Totals			0	4600	1200		

Perchlorate DHS Action Level is 18 µg/l and the interim DHS Action Level NDMA is 0.020 µg/l.

The TCE and PCE MCLs are 5 µg/l

Detection Levels = perchlorate 4 ppb, TCE and PCE are 0.5 ppb, and NDMA is 0.002 to 0.0075 µg/l.

Note: Family Housing Wells have a capacity of 6900 gpm.

Note: Boeing also a responsible party in the closure of Well Nos. 1097, 1800, 1809, and 1810.

Arden Cordova Supply Well Status, 1 November, 2001

Arden Cordova Well No. (Aerojet No.)	Capacity (gpm)	Status	Active Capacity (gpm)	Shutdown Capacity (gpm)	Voluntary Shutdown Capacity (gpm)	Comments	Contaminants (ppb)
1 (1011)	400	Active	400			Well is off and on due to various reasons - including bacteria	TCE 1-2.0, PCE 0.5-1.9, Perchlorate 12, NDMA - non detect
3 (1134)	600	Active	600			One time detect of perchlorate at 5.9 ppb in June 2001	TCE 0.85, Perchlorate and NDMA - non detect
4 (1135)	400	Active	400			Perchlorate - two initial detects in 2001, all other samples ND	TCE 0.89, Perchlorate 4.4, NDMA - non detect
5 (1012)	500	Active	500				TCE 1, Perchlorate ND and NDMA - non detect
6 (1137)	600	Active	600				All non detect
7 (1138)	600	Voluntary Shutdown			600	Turned off due to unconfirmed NDMA results.	PCE 0.56-1.1
8 (1138)	600	Active	600				All non detect
9 (1013)		Destroyed				Well destroyed - due to collapsed casing, not due to contamination.	
10 (1139)	700	Active	700			Initial TCE Detect in September 2001	TCE 0.55, Perchlorate ND and NDMA - non detect
11 (1140)	600	Shutdown		600			TCE ND, Perchlorate - non detect, NDMA 0.012

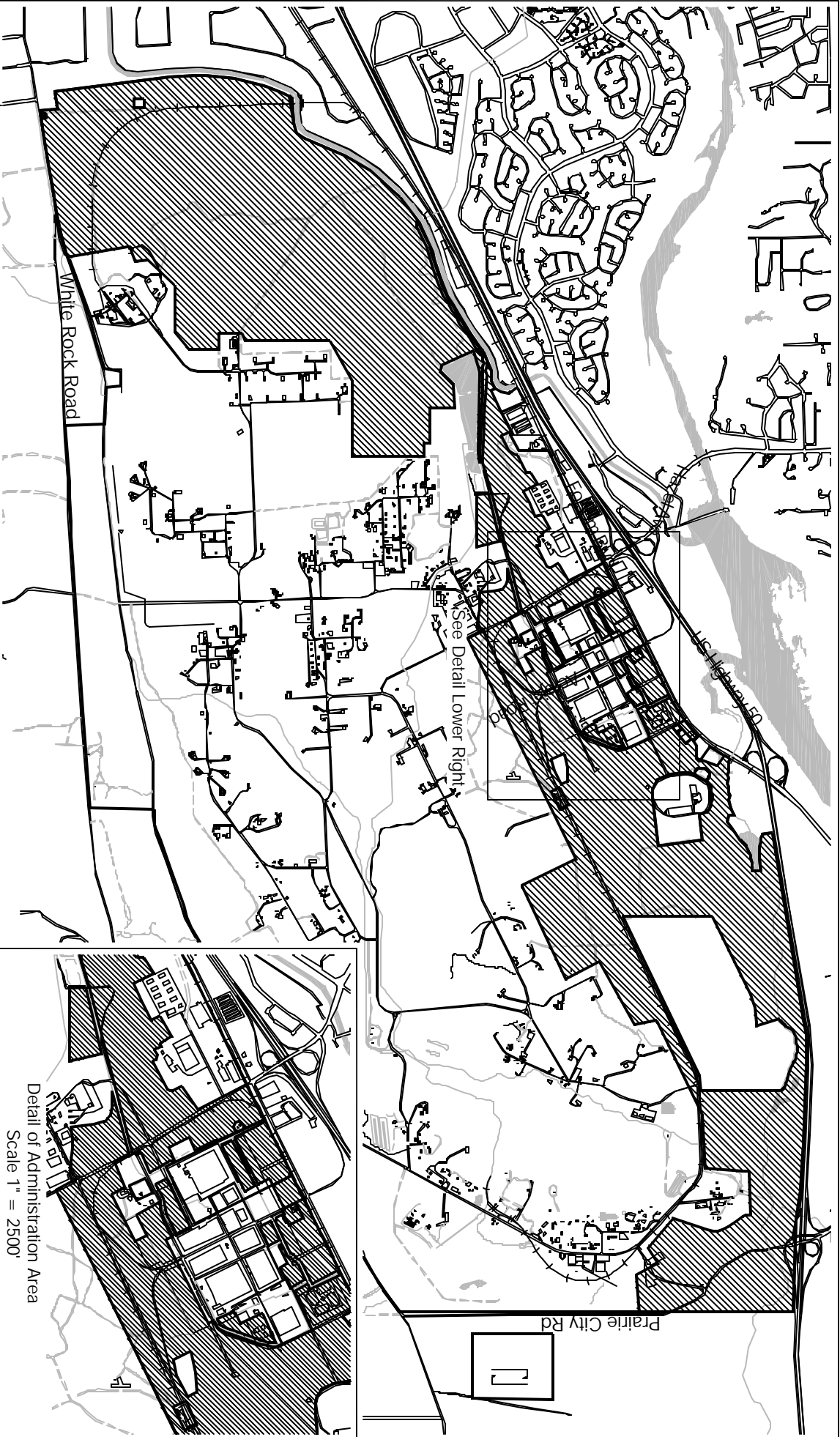
Arden Cordova Well No. (Aerojet No.)	Capacity (gpm)	Status	Active Capacity (gpm)	Shutdown Capacity (gpm)	Voluntary Shutdown Capacity (gpm)	Comments	Contaminants (ppb)
12 (1141)	600	Voluntary Shutdown			600	Turned off due to unconfirmed NDMA results.	TCE 0.55-2.9, Perchlorate and NDMA - non detect
13 (1014)	600	Shutdown		600		Due to Perchlorate and TCE	TCE 99, Perchlorate 360, NDMA - non detect
14 (1142)	600	Shutdown		600		Due to NDMA initial concentrations. Currently NDMA is non- detect	TCE ND, Perchlorate - 4.9- 9.4, NDMA - non-detect to 0.052
15 (1015)	300	Shutdown		300		Shutdown in 1997 due to perchlorate	TCE 18-24, Perchlorate 360, NDMA 0.009
16 (1016)	600	Shutdown		600		Shutdown in 1997 due to perchlorate	TCE 16-20, Perchlorate 340, NDMA 0.20
17 (1098)	1400	Active	1400				All non detect
18 (2003)	1400	Active	1400				All non detect
19 (1860)	1400	Shutdown		1400		Due to Perchlorate	Perchlorate 28
20 (2065)	2300	Active	2300				All non detect
21 (2066)	800	Active					TCE 0.5.-0.7
23 (2067) ¹	3000	Active	3000				All non detect
23 (2068) ¹	1600	Active	1600				All non detect
Totals			14300	4100	1200		

Perchlorate DHS Action Level is 18 µg/l and the interim DHS Action Level NDMA is 0.020 µg/l.


The TCE and PCE MCLs are 5 µg/l


Detection Levels = perchlorate 4 ppb, TCE and PCE are 0.5 ppb, and NDMA is 0.002 to 0.0075 µg/l.

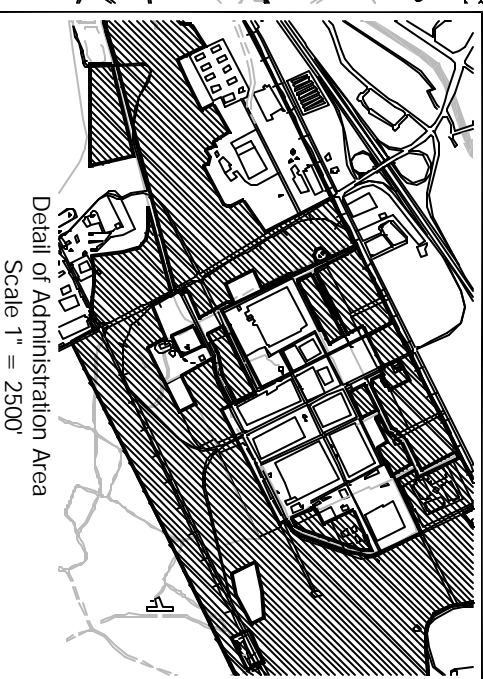
¹Note: Aerojet paid for all of Well No. 22 and is negotiating with ACWS on appropriate payment for Well No. 23.



EXPLANATION

 Carve-out Lands

 Aerojet Site Boundary



AEROJET

Environmental Remediation

Carve-out Lands